

REMARKS

The Examiner has rejected claims 1-7, 10, 12-14, 16-22, 24, 27 and 29-31 under 35 U.S.C. § 103(a) as being unpatentable over Baker U.S. Patent No. 3,952,179 in view of Maybon U.S. Patent No. 5,580,472. Claims 8, 9, 11, 15, 25 and 26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Baker U.S. Patent No. 3,952,179 and Maybon U.S. Patent No. 5,580,472 as applied to claims 1, 10, 13 and 22 above, and further in view of Cox et al. U.S. Patent No. 5,417,132.

The Examiner's position is that Baker discloses cladding a hard blade on a cutting die, but using a different heat source. Baker deposits weld beads on the tubular die surface, and then machines the weld bead to form the blade. Applicant has previously discussed in detail the inability of welding technology to produce near net shape blades. This is confirmed by the extensive machining requirements required in the Baker patent in FIGS. 3-8 and the accompanying text. Maybon uses a laser heat source for resurfacing, which the Examiner reasons may be substituted for the welding source in the Baker patent to thereby render obvious the presently claimed invention. Applicant respectfully traverses.

The claims of the instant application are directed to forming a cutting die with a blade that is integral with and extending outwardly from the die body surface by building the blade outwardly from the surface by cladding with a laser. Thus, the blade, not just a resurfaced top portion of the blade, is formed by laser cladding. Maybon is directed to resurfacing the tops of ridges on a paper pulp defibering or refining plate. As discussed by Maybon in Col. 1, the plates are made of cast iron or stainless steel and have a large number of ridges separated by grooves. The problem faced by Maybon is that "[t]he ridges on the plates tend to wear down

with use, due to the abrasive effect of the paper pulp fibers" (Col. 1, lines 30-34.)

Regarding the basic idea or solution of his invention, Maybon says the invention is "to resurface the top of the ridges selectively using an appropriate abrasion resistant material, retaining for the base of the ridges and the bottom of the grooves a material which favors flow of paper pulp" and "to resurface only the tops of the ridges of the plates by means of a laser beam in association with a powder injector." (Col. 2, lines 15-19 and 29-31, emphasis added.) Thus, the ridge is first cast or otherwise formed integrally with the plate body from a first material, then a second, abrasion resistant material is added to the tops only of the ridges. Accordingly, Maybon adds nothing to Baker in solving the problem respecting formation of the whole blade with a material different from that of the die body. Maybon does not teach ridge or blade forming on a body surface from different material than the body. Maybon specifically avoids forming the entire ridge of the abrasion resistant material, thereby teaching against the present invention. "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." MPEP § 2141.02 citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. cir. 1983), *cert denied*, 469 U.S. 851 (1984). One skilled in the art, looking to Maybon, would be led away from building the whole blade outwardly from the die body surface because Maybon teaches leaving the lower part of the ridge integral with and of the same material as the plate body and only adding harder material to the top of the ridge.

For further explanation of the teaching against of the secondary reference, and referring to FIG. 16 of the Maybon patent, the plate body 8 includes ridges 9-12 and grooves 13-15, and the ridges 9-12 include a lower part 20-23 and an upper part 16-19. Maybon states that: "[t]he stainless steel or cast iron plate body 8 forms the lower part 20 to 23 of the respective

ridges 9 to 12 and the bottom 24 to 26 of the respective grooves 13 to 15" (Col. 5, lines 1-3) and "[t]he body of the plate, the lower part of the ridges and the bottom of the grooves can be made from cast iron or stainless steel. This retains the good surface properties of stainless steel or cast iron in the groove bottoms to facilitate flow of the paper pulp in said grooves" (col. 2, line 65 to col. 3, line 2). The upper part 16-19 only is formed by laser resurfacing. As an example, Maybon states that the upper part of the ridges usually has a height of around 1 mm and the lower part of the ridges is usually about 6-8 mm high. (Col. 5, lines 4-7.) Thus, the majority of the ridge extending outward from the plate surface is of the same material and integral with the plate body, and only a small top portion comprises the laser-deposited material. The metallurgical bond formed in the Maybon article is achieved between the top part of the ridge and the lower part of the ridge, not between the plate body surface and the ridge. This is clearly a resurfacing method, not a blade building method as in the present invention. A method as in the Maybon patent for hard surfacing an existing feature does not constitute a teaching of building the feature itself. The presently claimed invention builds a small blade on a large die body by laser cladding wherein the whole blade is of a different material than the die body and the whole blade is metallurgically bonded to the die body surface such that it is integral therewith. While laser resurfacing may eventually be used for the die blades of the present invention, after use and wear of the die blades, the claims of the instant application are directed to the initial formation of the whole blade by laser cladding, which is not taught, and is in fact taught against, by Maybon. Maybon teaches against the method of the present invention, and therefore cannot be said to render it obvious. If you modify Baker by applying the teachings of Maybon, as a whole, you only get a tubular die with a bottom portion of the blade cast with the tubular die body, and a tip

portion of the blade resurfaced with harder material. The whole blade will not comprise the abrasion resistant material in accordance with Maybon's teachings. One cannot pick and choose only parts of Maybon where there is no suggestion for doing so. Thus, the combination of Baker with Maybon is improper and incapable of suggesting the invention specifically claimed here, and Applicants respectfully request that the rejections be withdrawn and a Notice of Allowance issued for all pending claims.

(2) Lastly, the Baker patent is directed to cutting dies, whereas the Maybon patent is directed to paper pulp defibering and refining plates. The patents are thus not in the same field of endeavor. One skilled in the art of cutting die manufacturing would not look to the field of paper pulp defibering and refining. The references are non-analogous, and thus not properly combinable. For this additional reason, the presently claimed method is not obvious in light of Baker and Maybon, which are non-analogous references. There being no *prima facie* case of obviousness, Applicant respectfully requests that the rejections under § 103 be withdrawn, and a Notice of Allowance issued for all pending claims.

(7) In addition to the remarks presented above, Applicant AGAIN refers the Examiner to the previously submitted customer accolades and declarations from Mr. Gregg Harrison, Mr. Graham Bell, and Mr. Paul Madill, which were submitted as secondary evidence for the purpose of traversing the obviousness rejection. The evidence submitted constitutes strong rebuttable evidence of the non-obviousness of the present invention. However, the evidence submitted was not commented upon in the succeeding actions of August 17, 2001, November 6, 2001 and March 7, 2002, and Applicant can therefore only conclude that the evidence was not considered by the Examiner. MPEP § 716.01 states: "Evidence traversing rejections must be considered by

the Examiner whenever present. All entered affidavits, declarations, and other evidence traversing rejections are acknowledged and commented upon by the Examiner in the next succeeding action." While the prior rejections under § 103 have been withdrawn, the new rejection is also under § 103 and the evidence is equally applicable as rebuttal evidence for the new rejection. Thus, Applicant believes that the sufficiency of the evidence should have been considered and commented upon. Mr. Harrison and Mr. Bell both discussed the increased die life that has been experienced in their plants through use of the cutting dies of the present invention. Both customers stated that they have experience longer die life than with any other cutting die currently available. The declaration of Mr. Madill sets forth the nexus between the evidence of commercial success and the claimed invention, and therefore Applicant believes the evidence submitted is of probative value in the determination of non-obviousness, and should accordingly be considered. Given the above remarks as to the lack of the *prima facie* case of obviousness, in combination with the secondary evidence of non-obviousness previously submitted, Applicant believes the claims of the present invention are entitled to Notice of Allowability.

In view of the foregoing amendments to the claims and remarks given herein, Applicants respectfully believe this case is in condition for allowance and respectfully request allowance of the pending claims. If the Examiner believes any detailed language of the claims requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

Applicants are of the opinion that no additional fee is due as a result of this amendment. If any charges or credits are necessary to complete this communication, please apply them to deposit account no. 23-3000.

Respectfully submitted,

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